

# Turf Conference Ideas Pay Dividends This Year

GOLFDOM asked men in charge of courses that have been in fine condition this year to select some ideas from the 1953 Golf Course Superintendents' Assn. convention addresses that have been profitably applied in their work this year.

None of the men questioned was inclined to estimate the dollar-and-cents value of the ideas. Nevertheless they were positive that in each case the savings to the club and the value of improved condition in increasing play far more than justified expenses in money and time of conference attendance.

Among the conference ideas (and their sources) were:

## WEED CONTROL

By B. H. GRIGSBY

On recently established turf the major weed problem often is that of controlling annual weeds which germinate more rapidly than most perennial grasses. In this problem, time is the determining factor and the customary clipping of the turf is usually the best control measure. Ragweed, pigweed, lamb's quarters and similar species seldom recover from clipping done when the weeds are 4 to 6 inches in height.

The use of 2, 4-D on such a weed problem is not necessary and, as a matter of fact, may do more harm than good. Young grass seedlings are not immune to the action of 2, 4-D and the temporary retarding of growth which can follow application of 2, 4-D may permit resistant weed species to become established, thus causing a problem to develop which possibly may not have occurred if resort to chemical treatment had been delayed.

Control of crabgrass is a difficult task on any turf area and once the grass has become widespread the problem tends to increase rather than decline. Here, perhaps more than in any other weed problem, the condition is an indicator of errors in previous management practices. For instance, destruction of broad-leaved weeds without attention to reseeding the treated areas is an open invitation to crabgrass invasion.

Within the past three or four seasons abundant data have been gathered which

show that chemical control of crabgrass is possible without undue risk to turf or animal life. Various formulations of phenyl mercuric acetate, potassium cyanate and special refined oils, when used according to manufacturer's directions will control crabgrass. Timing of the application of these herbicides is of critical importance and generally treatments must be applied to young crabgrass. Some discoloration in the treated areas may occur, but is of a temporary nature and soon disappears.

Two years of experiments in Michigan have shown that a mixture of chlordane and deodorized highly refined kerosene-type oils is effective on crabgrass at any stage of growth. A dosage of 6 ounces of a 74 percent concentrate of chlordane in 1 gallon of suitable oil per 1,000 square feet will destroy crabgrass within 3-5 days' time. Blue grass is not affected by the treatment, bentgrasses may show slight yellowing, but are not killed and fescues may be severely burned.

## RESEARCH

By GILBERT H. AHLGREN

At the turn of the century fairways and greens were much smaller than those of today. Sheep and rabbits were used for mowing instead of efficient machines. Thin grass received no fattening diet of well chosen plant nutrients. Fungicides and insecticides for disease and insect control had barely been conceived. Selective herbicides were considered impossible. Picture with me the kind of turf you would have today without the advances that science has made. It has been a long step from the thin, rabbit and sheep mowed grass to the trim, well-groomed fairways and greens of today.

Chemicals for selective weed control were generally in disrepute until 10 years ago. Strong caustic action without enough selectivity characterized these early herbicides.

The discovery of the selective weed-killing properties of 2, 4-D and related compounds opened up a whole new era in man's ageless battle against weeds. The finding of this amazing broad-leaved weed killer was shortly followed by the discovery in 1946 by the Rhode Island

Experiment Station that phenyl mercury compounds would remove crabgrass from bentgrass turf.

Another milestone was the finding by the New Jersey Agricultural Experiment Station in 1948 that potassium cyanate could successfully eliminate crabgrass in bluegrass turf.

Research is often a slow, painful process. For every success there are a thousand failures. Scientific research is not a series of miracles or brilliant discoveries. It is a gradual development, often the result of years of preliminary investigation. It takes time to test and to prove new ideas.

Unsolved turf problems regarding seeding establishment, *Poa annua* control, sub-surface fertilizer application, grass adapted to close cutting treatment, irrigation practices, and disease resistant grasses abound.

Research is of little value unless the fruits of its discoveries are harvested. The technical developments that I have mentioned above have already found practical use on golf courses. On some courses all are in general use; on others only a few. Financial resources, education, and individual aptitude for progress makes the difference.

### THATCH CONTROL

By RALPH E. ENGEL

On many occasions, I have noted that serious thatch problems occur on soils having a low pH. Certainly, management can provide the proper pH through liming. Also, management can alter the nutrient and moisture conditions to some extent.

In earlier years when labor costs were lower, topdressings of soil were used heavily and frequently on the greens. Two years ago, I encountered a course that was still following this practice. These greens had an excellent tight turf that was free of thatch in spite of the fact that the greens had never been raked or cultivated. The absence of thatch on these greens can be explained by the thorough topdressing program that encouraged the organic residues to decompose readily. Apparently, the topdressing material had reduced the frequency of surface drying and enabled the bacteria to decompose organic matter without interruption. Possibly this type of situation illustrates the value of mixing soil and thatch as was suggested by Dr. Starkey. Let us remember this principle, since some of our methods tend to mix thatch and soil.

Topdressing with soil for thatch control has very limited application because of cost. Also, application of topdressing material on established thatch is undesirable because contact cannot be made with the soil. Certainly, we must utilize other methods for controlling thatch on most turf grass areas.

### RYE-BERMUDA TRANSITION

By J. R. WATSON, JR.

Where Bermuda and ryegrass is used to maintain green turf throughout the year the two periods of transition are perhaps as critical as any facing the superintendent. The conversion from Bermuda to ryegrass as a rule causes little difficulty. However, a successful transition from rye to Bermuda the following spring will depend to a large extent on the manner in which the fall transition was handled.

The recommended procedure for the fall transition involves certain basic practices. These are:

1. About 4 to 6 weeks prior to seeding ryegrass, aerate the green as deeply as possible.

2. Immediately following aeration apply a complete fertilizer (one that contains nitrogen, phosphorus, and potash). This fertilizer should have a ratio of approximately 2-1-1 with at least one-half of the nitrogen in an organic form and be applied at a rate to supply approximately two lbs. of nitrogen per 1000 sq. ft. It is important that nitrogen be applied early enough in advance of seeding the rye so that the Bermuda will utilize most or all of it. No additional nitrogen should be applied at the time of seeding rye.

3. Following aeration and fertilization, mow at the usual height of cut until shortly before seeding rye.

4. A few days before seeding date, the Bermuda should be cut somewhat closer than normal.

5. Remove any thatch present.

6. Thoroughly scarify the green. This may be accomplished by aerating with the spoons or tines adjusted so that they penetrate only one to one and a half inches followed by spike disking. The object here is to insure contact between the seed and soil. Such will reduce the amount of rye grass otherwise needed to insure a good stand.

7. Seed 10 to 20 lbs. of ryegrass per 1000 sq. ft. The exact amount to use will depend on the personal preference of the superintendent, climatic conditions obtaining, condition of seed bed and whether or not the seed have been treated with a



—United Press Photo

### NEW CAST; SAME WALKER CUP ROUTINE

With a 9-3 victory at the Kittansett club, Marion, Mass., the U. S. Walker Cup team ran the Yank victories over the British amateur squads to 13. The British won the Walker Cup once, in 1938 at St. Andrews. The U. S. team, from L to R: Captain Charles R. Yates, Jack Westland, Richard D. Chapman, Harvie Ward, Don Cherry, Sam Urzetta, Kenneth Venturi, Gene Little, R. James Jackson, Charles R. Coe, and Bill Campbell.

fungicide. Re-seeding may be necessary if a good thick uniform coverage is not obtained with the first seeding. Usually an additional 5 to 10 lbs. per 1000 sq ft. will be ample to thicken up the stand.

8. Topdress lightly and roll with a light-weight roller to press the seed into the soil. If the seed bed has been scarified properly, topping may be omitted.

9. Sprinkle lightly often enough to keep seed bed moist until seed germinate. "Damping off," a seedling disease that destroys many seedlings and often necessitates reseedling or excessively heavy seeding rates may be avoided by:

1. Delaying seeding until the average nightly temperature is 70°F or below.
2. Avoiding excessive nitrogen in the seedbed.
3. Treating with Arasan or some similar seed disinfectant.

Where greens are large enough one of the more effective methods of handling the winter grass problem is to seed only one-half of the green to ryegrass. A few clubs that have handled the problem in this manner have been very pleased with the results.

The spring transition—from ryegrass to Bermuda—usually causes more trouble than the fall transition—Bermuda to rye.

In fact, the majority of the troubles on Bermuda greens this past season could be traced directly to poor spring transition. The late cool spring that prolonged the life of the ryegrass and retarded growth of the Bermuda unquestionably contributed to the poor condition of many greens. Weak strains of grass—inherently weak or weakened by improper handling (especially improper fertilization) the preceding fall likewise contributed to poor spring transition.

There are still pros and cons regarding "rapid" vs. "slow" transitions. It would appear that the superintendent's personal judgment should be the ultimate factor in deciding which method to follow. The rapid transition refers to the practice of burning the ryegrass off with a heavy application of soluble nitrogen. The slow method refers to the practice of permitting the rye to pass out gradually. An assist in the form of over-stimulation with soluble nitrogen, closer mowing, aeration and reduced watering will generally aid in a smoother transition with little or no loss of play. The major disadvantage of the rapid method is the loss of play for a week or so following removal of the ryegrass.

(Continued on next page)

## RHODES SCALE CONTROL

By J. L. JENNINGS

Rhodes grass scale has been the cause of great concern in the Gulf Coast area for several years. Turf damage can be as small as an area from 4 to 6 inches, to the infestation of an entire green, if efforts are not made immediately to control it. This insect seems to like a dry condition, and first appears in the summer on the high part of a green which tends to dry out, and ceases to be a problem in the late fall, with the coming of cool weather. Turf loses color and then dies if growth is not forced with the application of fertilizer to offset the feeding of the scale insect.

Chlordane will control the insect in the crawling stage, but has no effect on the mature scale, which looks like a small whitish ball, sometimes as large as the head of a match.

When evidence of damage first appears, we put into action the following control:

Aerify, lightly topdress, fertilize and water the infested area. Then spray all greens with chlordane at the rate of from 4 to 5 lbs. of actual chlordane per acre, at 10-day intervals.

## ADJUST TO WEATHER

By O. J. NOER

Some people decry any attempt to blame weather for damage or loss of grass, and cite the isolated instance of little or no trouble on one course to prove that serious damage on nearby courses is man-made and never God-given. In some cases this contention is the right one, but not always. Failure to modify a routine practice because of the unusual may happen. For example, a superintendent on a course in south Georgia once remarked that too much peat had been used in reconstructing one green. The soil in all the others was very sandy. He seemed puzzled when asked if this green was watered as often and if it received the same amount of water as the others. Peat has a very high, and sand a very low, water-holding capacity. His trouble vanished when the new green was watered less frequently and given more water each time. The change made sense. Because of the lower waterholding capacity of the sand it was necessary to use less water each time and water more frequently. This is but one example of many, yet the modified watering procedure would fail in a period of extremely heavy rainfall.

In each climatic zone the tricks of customary weather are known and expected.

They are handled effectively and with dispatch. But troubles multiply when there is an abrupt change to a different kind of weather. Then God-given troubles may be man made also because damage might have been averted with a little extra know-how. In the Midwest dry hot weather is taken in stride, but this occurs less often in regions where normal summers are moist and cool. Wilting and localized dry spots are not recognized in time to avert damage.

Whenever snow comes before the ground freezes snow mold is always worse than otherwise. Injury can be lessened by avoiding the use of Seaside and other susceptible strains of grass. The presence of too much organic matter at or near the soil surface keeps the soil wet and makes disease worse. The organic matter may be from the excessive use of peat, or may be due to the presence of matted grass. The amount of organic matter in the soil should not exceed 15 to 20 per cent by volume, and the development of a thatched turf should not be tolerated. Then fungicides will give satisfactory protection.

## BUDGET AND FERTILIZING

By NELSON MONICAL

A superintendent's knowledge and wishes are sometimes far apart from the club budget. I have known members to compare the turf on courses located in the same locality and wondered why there was such a marked contrast. The big difference was that one had spent 3 to 4 times as much on his fertilizing program.

For those who are going in for the cold and warm weather grass combinations, it would be well to study their requirements. Most of your fertilizer should be used during the summer months. Possibly more nitrogen could be used than you normally would.

The mowing practices have been stepped up to six days a week on greens, and three to four days a week on tees and fairways. Fertilizing programs will have to be increased also. More fertilizer and less water is the trend taking place now. A well fertilized fairway, where the turf is dense and firm, plays much better than a lush, over-watered one.

Clover in a great number of fairways increased possibly because of installing a water system, and its operation did not allow enough expenditure for fertilizers. High nitrogen feeding, where clover is a problem, is almost a necessity along with your other controls.